CHAPTER 7: WHAT DID WE LEARN ABOUT GENERAL AVIATION ACTIVITY?

Why is GA activity important to Washington State?

GA provides a wide range of essential services from business transportation to medical evacuation and agricultural support

General aviation (GA) is defined as all aviation other than scheduled commercial aviation and military aviation. General aviation provides a wide range of essential services such as personal and business transportation, medical evacuation, and agricultural support to communities across the state. Over 8,000 GA aircraft including single-engine piston-powered airplanes, multi-engine turboprops, intercontinental business jets, helicopters, and experimental and light sport aircraft are currently based in Washington State. While GA activity sits often in the shadow of commercial activity, it plays an integral role in fostering the state economy.

An economic impact study[98] commissioned by the Washington State Department of Transportation estimates that general aviation activity produces the following economic impacts in the state economy:

- $490 million in total output
- $140 million in employee compensation
- Nearly eight thousand jobs

Some of the important areas in which GA activity provides significant benefits are:

- Business and industry
    - Business aviation is one of the most important segments of GA, with nearly two-thirds of all the hours flown by GA aircraft in the U.S. being for business purposes[99]. GA allows for speed and efficiency in the transport of personnel between company locations and customer sites and in the distribution of priority cargo, enabling companies to maintain a competitive edge in the fast-moving global economy.
- Health and medicine

[98] Washington State Department of Transportation, Aviation Division: Aviation System Plan – Forecast and Economic Analysis Study, 2002.
[99] General Aviation Manufacturers Association: GAMA Annual Industry Review & Market Outlook, 2007.

- Medical evacuation (medevac) flights provide rapid air transportation and advanced medical care for critically injured and ill patients in life-threatening situations.

- Agriculture
  - Routine uses of agricultural planes and helicopters include aerial planting, aerial fertilizer application, and GPS-controlled 'Crop Dusting.'
- Pilot training
  - Civilian flight schools are responsible for the training of new airline pilots.

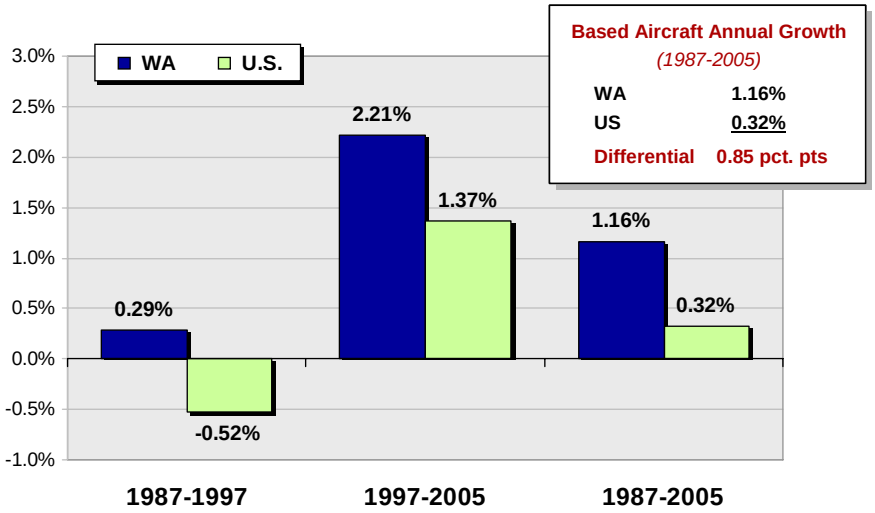
Description of existing activity across the state

Based Aircraft

8,200 based aircraft reported in 2005, reflecting an annual growth of 1.16% between 1987 and 1995

Between 1987 and 2005, the number of based general aviation aircraft in Washington State increased from 6,650 to approximately 8,200 aircraft, representing an average annual growth rate of 1.16 percent. Over the same period, active GA aircraft for the U.S. as a whole increased at an average annual rate of 0.32 percent, from 202,700 aircraft in 1987 to approximately 215,000 aircraft in 2005. As shown below in Figure 98, growth in GA aircraft within Washington outpaced the U.S. through the 18 year period from 1987 to 2005.

Figure 98: Comparison of WA State and U.S Historical Based Aircraft Average Annual Growth, *1987–2005*

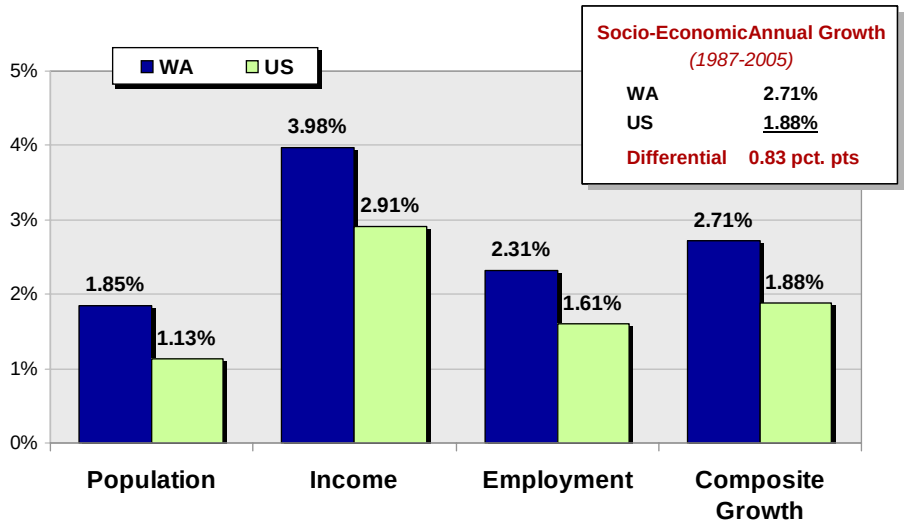


Sources: FAA Aerospace Forecast, WSDOT, WA 2006 Airport Inventory Survey

WA has outpaced the U.S. in based aircraft growth, just as it has in socio-economic growth

In general, growth in general aviation activity is associated with underlying socio-economic growth. The LATS study team compiled historic socio-economic statistics for both Washington State and the U.S. to determine the extent to which the observed growth rates in based general aviation aircraft were related to corresponding differences in their respective rates of socio-economic growth. As illustrated in Figure 99, Washington's economy also grew more rapidly than the nation as a whole, based on three representative socio-economic measures – population, total personal income, and employment.

Figure 99: Comparison of WA State and U.S Historical Socio-Economic Average Annual Growth, *1987–2005*



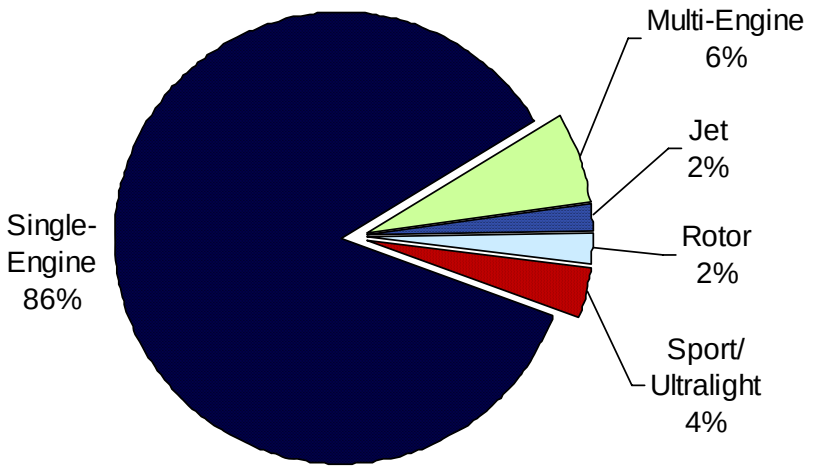
* Represents average growth rate for Population, Personal Income and Employment

Sources: U.S. Bureau of the Census, U.S. Bureau of Economic Analysis, NPA Data Services Inc.

Single-engine aircraft 86 percent of total based aircraft, while jet-engine aircraft only 2 percent

Out of the 8,200 based aircraft in Washington in 2005, approximately 7,000 or 86 percent were single-engine piston-powered aircraft. Multi-engine aircraft (multi-engine pistons, as well as multi-engine turboprops) numbered 520, representing approximately 6 percent of total based aircraft. Experimental aircraft and light sport aircraft numbered 300, accounting for 4 percent of total based aircraft. Jet-engine aircraft numbers were small. Like rotor aircraft, jets accounted for only 2 percent of total based aircraft in Washington, numbering approximately 160. The Washington State fleet mix is illustrated in Figure 100 on the following page.

Figure 100: Washington State Fleet Mix, *2005*



Sources: WA LATS Database, 2007

Figure 101: Washington State Based Aircraft by RTPO, *2005*

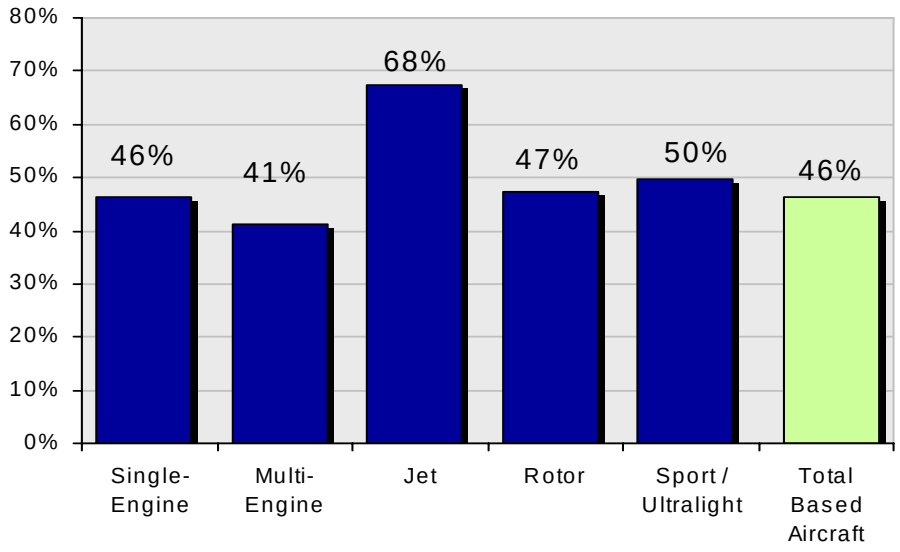
Rank	RTPO	Num of Airports	Total Based A/C	% State Based A/C
1	Puget Sound Regional Council	28	3,798	46%
2	Spokane Regional Transportation Council	5	579	7%
3	Benton-Franklin-Walla Walla RTPO	7	471	6%
4	Southwest Washington RTC	9	440	5%
5	Quad-County RTPO	19	413	5%
6	North Central RTPO	15	410	5%
7	Peninsula RTPO	7	345	4%
8	Skagit/Island RTPO	7	328	4%
9	Southwest Washington RTPO	13	327	4%
10	Thurston Regional Planning Council	4	254	3%
11	Whatcom Council of Governments	5	248	3%
12	Yakima Valley Council of Governments	3	146	2%
13	Palouse RTPO	7	112	1%
14	Northeast Washington RTPO	6	60	1%
	No RTPO – San Juan Islands	6	246	3%
	Total Washington	*141*	*8,177*	*100%*

Note: Evergreen Field (59S) and Hillcrest (9P7) included
Sources: WA LATS Database, 2007

46 percent of WA based aircraft and 68 percent of WA jets concentrated in the Puget Sound Region

The greatest concentration of based aircraft in the state is in the Puget Sound Region RTPO. Total based aircraft in the region accounted for 46 percent of total Washington State based aircraft in 2005. See Figure 101 for a breakdown of Washington based aircraft by RTPO. Puget Sound not only accounted for nearly half of the based aircraft in the state; Puget Sound also accounted for approximately two-thirds of the state's jet aircraft. Jet aircraft in Puget represented 68 percent of total Washington State jet aircraft. Figure 102 shows Puget Sound's share of the various based aircraft types in Washington.

Figure 102: Puget Sound Region Share of Washington State Based Aircraft by Type, *2005*



Sources: WA LATS Database, 2007

GA Operations

Approximately 3 million GA Operations in 2005

Total GA Operations in Washington in 2005 was estimated at approximately 2,970,000. Compared to approximately 730,000 commercial and military operations[100] reported in 2005, GA operations represent 80 percent of total aircraft operations in the state.

The majority of Washington airports do not have air traffic control towers and therefore do not currently have a way to accurately measure GA operations. For airports with no precise historical and/or existing GA operations counts available, reasonable estimates of GA operations have been made based on FAA methodology.

[100] In LATS, military operations at public use airports only are considered

Scope of forecasts

GA forecasts for the period 2006–2030 were developed for 139 public use airports.

General aviation forecasts were prepared for Washington's 139 public use airports[101]. Forecasts were developed by the LATS study team for the period from 2006 to 2030, with 2005 serving as the base year.

The following GA activity measures were forecast at each airport:

- GA based aircraft : By aircraft type (Single Engine Piston, Multi-Engine Piston/Turboprop, Jet Engine, Rotorcraft, Other)
- GA operations: Local versus Itinerant

The forecasts represent unconstrained projections of future aviation activity at individual airports and were developed independently from existing or potential future capacity constraints at these airports.

The forecasts represent unconstrained projections of future aviation activity at individual airports and were developed independently from existing or potential future capacity constraints at these airports. In some situations, capacity analysis along with other supporting data may indicate that the airport activity forecast can not be accommodated at an individual airport. In these instances, further analysis will be conducted to identify the capacity shortfall and determine options for accommodating excess demand.

At a number of Washington airports, recent forecasts had already been prepared by airport representatives and their consultants in connection with individual airport planning efforts. In cases where individual airport forecasts had a base year of 2001 or later, and had received FAA acceptance[102], the forecasts were adopted for use in this study. Forecasts were first extended through the Year 2030 for consistency with the LATS planning horizon and then substituted into the LATS forecast database. Figure 103 presents a list of the 32 airports with recent Master Plan forecasts that were adopted for use in LATS.

[101] Forecasts not prepared for Evergreen Field (59S), which closed in July 2006, and Hillcrest (9P7), which became private during Phase II of the LATS study.

[102] It should be noted that in certain instances, FAA acceptance of individual airport forecasts did not entail approval of all forecast parameters, particularly when specific forecasted values (e.g., aircraft operations) fall outside normal FAA planning parameters. FAA acceptance of individual forecasts may have been granted in circumstances when these forecasted values had no associated facility improvement implications.

Figure 103: List of Airports with Recent FAA Accepted Forecasts

No.	Airport	No.	Airport
1	Anderson Field	17	Harvey Field
2	Blaine Municipal	18	Ione Municipal
3	Bremerton National	19	Ocean Shores Municipal
4	Cashmere Dryden	20	Odessa Municipal
5	Chelan Municipal	21	Okanogan Legion
6	Cle Elum Municipal	22	Othello Municipal
7	Columbia Gorge Regional/The Dalles	23	Packwood
8	Davenport Municipal	24	Port of Whitman Business Air Center
9	Desert Aire	25	Prosser
10	Dorothy Scott Municipal	26	Renton Municipal
11	Friday Harbor	27	Rosalia Municipal
12	Friday Harbor SPB	28	Seattle-Tacoma International
13	Goldendale Municipal	29	Skagit Regional
14	Grand Coulee Dam	30	Vashon Municipal
15	Grant County International	31	Westport
16	Grove Field	32	Willard Field

Forecasts reviewed by the FAA, WSDOT and individual airport sponsors

Once the draft general aviation activity forecasts were prepared, they were forwarded to WSDOT Aviation and the FAA Regional District Office for internal review. Based on this internal review, certain adjustments were made to individual airport forecasts to allow for more accurate reflections of airport and regional conditions. In the final step of the review process, the draft forecasts were then distributed to individual airport sponsors across the State. Telephone interviews were scheduled and carried out with the individual airport sponsors to obtain their feedback and comment, prior to finalizing the forecasts.

Forecast methodology

Based Aircraft Forecast

A top-down approach used to develop based aircraft forecasts

The based aircraft forecasts were developed using a top-down approach. The initial step consisted of forecasting total GA based aircraft across Washington State as a whole. The statewide forecast of based aircraft was then apportioned to individual planning regions within the state based on existing share. Finally, the based aircraft forecasts for individual planning regions were allocated to the specific airports located within each region.

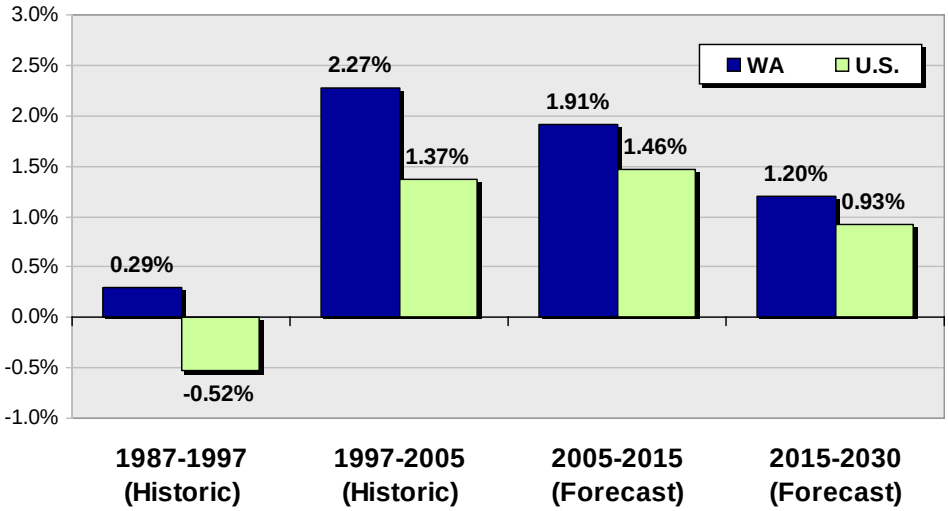
Forecast of General Aviation Based Aircraft in Washington State

The FAA national forecast of growth in the national GA fleet was used as a benchmark from which to forecast GA activity within Washington State. The FAA Aerospace Forecast[103] projects that the national fleet of active GA aircraft will increase from 215,000 aircraft in 2005 up to 253,000 aircraft in 2017, with a relatively strong annual growth rate of 1.91 percent from 2005 to 2015, which then tapers downward to 0.93 percent from 2015 on.

Differentials in socio-economic growth and based aircraft growth between WA and the U.S. used to project WA based aircraft growth

As the economy of Washington State will continue to outperform the U.S. as a whole during the 2005 to 2030 forecast period, based aircraft growth in Washington is projected to exceed the U.S. as a whole. Applying a method that makes use of differentials in socio-economic growth and based aircraft growth between Washington State and the U.S., future based aircraft growth for Washington State was computed from the FAA forecast based aircraft growth for the nation. The growth rate in Washington's based GA aircraft is forecast to exceed the national rate, by margins of 1.91 percent (Washington) vs. 1.46 percent (U.S.) for the 2005 to 2015 period, and 1.20 percent (Washington) vs. 0.93 percent (U.S.) for the 2015 to 2030 period. See Figure 104 on the following page.

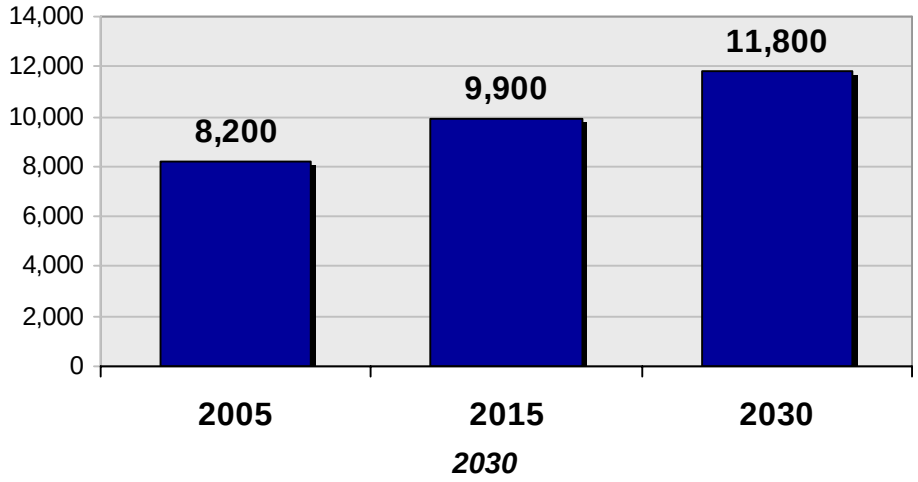
Figure 104: Comparison of WA State and U.S Forecast Based Aircraft Annual Growth, *2005–2030*



[103] Federal Aviation Administration: FAA Aerospace Forecasts, FY 2006-2017

Based on these forecast growth rates, total based GA aircraft in Washington State will increase from approximately 8,200 aircraft in 2005 up to 11,800 aircraft in 2030, as shown in Figure 105.

Figure 105: Forecast Based Aircraft for Washington State, *2005–2030*



Note: The 2005 based aircraft adjusted afterwards to reflect corrected data from individual airports and to exclude Evergreen Field (59S), closed July 2007, and Hillcrest (9P7), privatized during Phase II of LATS

Distributing Total Washington Based GA Aircraft to Individual Transportation Planning Regions

Preferred method based on relative socio-economic growth, with weight given to historical growth

The study team developed and evaluated several alternative methodologies for distributing statewide forecast based aircraft to the 14 Regional Transportation Planning Organizations (RTPO's) within the state.

Following review of the alternative forecasts, an approach using the various RTPO's socio-economic growth rates to project the RTPO's based aircraft growth rates was selected as the preferred methodology. Growth rates derived under this preferred methodology were then adjusted so as to give some weight to historical based aircraft growth in the various RTPO's. Weight is given to observed historical RTPO growth rates during the early portion of the forecast period, resulting in a smoothing of based aircraft growth rates from the historic to forecast periods.

Distributing Forecast RTPO Based Aircraft by Type to Individual Airports

Airport's shares of RTPO aircraft types held constant

Each RTPO in Washington State contains multiple airports. The forecast based aircraft for each RTPO were distributed by aircraft type across individual airports in the RTPO. First, each airport's share of the total RTPO aircraft within a specific aircraft class (i.e., single-engine piston,

jet, etc.) was computed for the base year of 2005. These shares were then held constant across the forecast time period. For example, if a specific airport accounted for 10 percent of the RTPO's based jet aircraft in 2005, that airport was assigned 10 percent of the RTPO's total forecast jet aircraft in subsequent forecast years. In this manner, the RTPO forecasts were allocated to the individual airports within each RTPO.

GA Operations Forecast

GA operations were forecast using based aircraft forecasts and ratios of GA operations per based aircraft

Once based aircraft forecasts were developed, general aviation aircraft operations were then forecast at each airport in relation to the number of forecast based aircraft. At towered airports, actual counts of general aviation aircraft operations (takeoffs and landings) for 2005 were used to develop a ratio of general aviation operations per based aircraft. The 2005 ratio was carried forward across the forecast period.

At non-towered airports, where actual counts of general aviation aircraft operations are generally unavailable, the LATS study team applied FAA planning guidelines that define a range of operations per based aircraft associated with different categories of airports. The classification of the State's airports and selection of the appropriate ratio of operations per based aircraft were determined based on input from WSDOT Aviation and the FAA Regional District Office.

Refer to the GA Forecast Technical Memorandum for a more detailed account of forecast methodology.

Forecast results

Washington State Forecast

Washington based aircraft to grow 1.49 percent annually, from 8,100 in 2005 to 11,800 in 2030

In 2005, approximately 8,100 general aviation aircraft were based at public use airports in Washington State. The number of statewide based aircraft is forecast to increase to approximately 9,700 aircraft in 2015, and 11,800 aircraft in 2030. Over the full forecast period from 2005 to 2030, the State's based aircraft will increase at an average annual rate of 1.49 percent.

Washington GA operations to grow 1.6 percent annually, from 3.0 million in 2005 to 4.4 million in 2030

Washington State's general aviation aircraft operations are forecast to increase from 3.0 million in 2005 up to 4.4 million in 2030, representing average annual growth of approximately 1.60 percent. The growth in GA operations is slightly higher than the growth in based GA aircraft, reflecting a small increase in the average number of operations per based aircraft.

RTPO Forecasts

Figure 106 presents the distribution of Washington's based aircraft in each forecast year by RTPO.

Figure 106: Washington State RTPO Based Aircraft Growth, *2005–2030*

Growth Rank	RTPO	2005	Forecast Based Aircraft 2010	2015	2020	2025	2030	Average Annual Growth 2005-2015	2015-2030	2005-2030
1	Thurston Regional Planning Council	254	294	338	366	396	427	2.90%	1.57%	2.10%
2	Southwest Washington RTC	378	416	466	512	562	613	2.11%	1.84%	1.95%
3	Quad-County RTPO	413	469	535	571	614	658	2.62%	1.39%	1.88%
4	Peninsula RTPO	345	398	446	482	510	545	2.60%	1.35%	1.85%
5	Northeast Washington RTPO	60	69	80	83	89	94	2.92%	1.08%	1.81%
6	Whatcom Council of Governments	248	276	308	330	354	378	2.19%	1.37%	1.70%
7	Puget Sound Regional Council	3,798	4,097	4,457	4,759	5,083	5,434	1.61%	1.33%	1.44%
8	Benton-Franklin-Walla Walla RTPO	471	511	556	594	633	673	1.67%	1.28%	1.44%
9	North Central RTPO	410	435	486	520	548	579	1.72%	1.17%	1.39%
10	Skagit/Island RTPO	328	364	398	416	430	448	1.95%	0.79%	1.25%
11	Spokane Regional Transportation Council	579	626	675	705	735	768	1.55%	0.86%	1.14%
12	Southwest Washington RTPO	327	354	378	393	409	429	1.46%	0.85%	1.09%
13	Yakima Valley Council of Governments	146	149	154	161	168	174	0.53%	0.82%	0.70%
14	Palouse RTPO	112	114	118	123	128	133	0.52%	0.80%	0.69%
	No RTPO – San Juan Islands	246	283	317	343	373	402	2.57%	1.60%	1.98%
	Total Washington State	**8,115**	**8,855**	**9,712**	**10,358**	**11,032**	**11,755**	**1.81%**	**1.28%**	**1.49%**

Figure 107 presents each RTPO's share of total Washington State based aircraft through each of the forecast years.

Figure 107: RTPO Share of Washington State Based Aircraft, *2005–2030*

2005 Rank	RTPO	2005	Forecast Share of State Based Aircraft 2010	2015	2020	2025	2030
1	Puget Sound Regional Council	46.8%	46.3%	45.9%	45.9%	46.1%	46.2%
2	Spokane Regional Transportation Council	7.1%	7.1%	7.0%	6.8%	6.7%	6.5%
3	Benton-Franklin-Walla Walla RTPO	5.8%	5.8%	5.7%	5.7%	5.7%	5.7%
4	Quad-County RTPO	5.1%	5.3%	5.5%	5.5%	5.6%	5.6%
5	North Central RTPO	5.1%	4.9%	5.0%	5.0%	5.0%	4.9%
6	Southwest Washington RTC	4.7%	4.7%	4.8%	4.9%	5.1%	5.2%
7	Peninsula RTPO	4.3%	4.5%	4.6%	4.7%	4.6%	4.6%
8	Skagit/Island RTPO	4.0%	4.1%	4.1%	4.0%	3.9%	3.8%
9	Southwest Washington RTPO	4.0%	4.0%	3.9%	3.8%	3.7%	3.6%
10	Thurston Regional Planning Council	3.1%	3.3%	3.5%	3.5%	3.6%	3.6%
11	Whatcom Council of Governments	3.1%	3.1%	3.2%	3.2%	3.2%	3.2%
12	Yakima Valley Council of Governments	1.8%	1.7%	1.6%	1.6%	1.5%	1.5%
13	Palouse RTPO	1.4%	1.3%	1.2%	1.2%	1.2%	1.1%
14	Northeast Washington RTPO	0.7%	0.8%	0.8%	0.8%	0.8%	0.8%
	No RTPO – San Juan Islands	3.0%	3.2%	3.3%	3.3%	3.4%	3.4%
	Total Washington State	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Figure 108 presents the distribution of Washington's GA operations through the forecast period by RTPO.

Figure 108: Washington State RTPO GA Operations Forecast, *2005–2030*

Growth Rank	RTPO	2005	Fcst GA Operations 2015	Fcst GA Operations 2030	Average Annual Growth 2005-2015	Average Annual Growth 2015-2030	Average Annual Growth 2005-2030
1	Thurston Regional Planning Council	121,866	163,896	208,587	3.01%	1.62%	2.17%
2	Whatcom Council of Governments	80,026	101,107	127,529	2.37%	1.56%	1.88%
3	Southwest Washington RTC	128,825	155,845	201,954	1.92%	1.74%	1.81%
4	Northeast Washington RTPO	21,650	28,340	33,171	2.73%	1.05%	1.72%
5	Puget Sound Regional Council	1,358,117	1,640,534	2,068,251	1.91%	1.56%	1.70%
6	Peninsula RTPO	141,850	177,400	209,150	2.26%	1.10%	1.57%
7	North Central RTPO	141,594	177,047	209,502	2.26%	1.13%	1.58%
8	Quad-County RTPO	252,655	311,481	361,473	2.12%	1.00%	1.44%
9	Benton-Franklin-Walla Walla RTPO	163,159	190,923	228,179	1.58%	1.20%	1.35%
10	Skagit/Island RTPO	109,750	133,575	150,235	1.98%	0.79%	1.26%
11	Southwest Washington RTPO	116,589	135,344	157,388	1.50%	1.01%	1.21%
12	Spokane Regional Transportation Council	137,533	160,784	183,157	1.57%	0.87%	1.15%
13	Yakima Valley Council of Governments	40,336	42,547	48,048	0.54%	0.81%	0.70%
14	Palouse RTPO	55,472	59,522	64,864	0.71%	0.57%	0.63%
	No RTPO – San Juan Islands	99,362	124,807	163,005	2.31%	1.80%	2.00%
	Total Washington State	**2,968,784**	**3,603,154**	**4,414,494**	**1.96%**	**1.36%**	**1.60%**

Figure 109 presents each RTPO's share of total Washington State GA operations through the forecast period.

Figure 109: RTPO Shares of Washington State GA Operations, *2005-2030*

2005 Rank	RTPO	2005	2015	2030
1	Puget Sound Regional Council	45.7%	45.5%	48.7%
2	Quad-County RTPO	8.5%	8.6%	7.8%
3	Benton-Franklin-Walla Walla RTPO	5.5%	5.3%	5.2%
4	Peninsula RTPO	4.8%	4.9%	4.3%
5	North Central RTPO	4.8%	4.9%	4.4%
6	Spokane Regional Transportation Council	4.6%	4.5%	4.0%
7	Southwest Washington RTC	4.3%	4.3%	5.0%
8	Thurston Regional Planning Council	4.1%	4.5%	4.5%
9	Southwest Washington RTPO	3.9%	3.8%	3.4%
10	Skagit/Island RTPO	3.7%	3.7%	3.2%
11	Whatcom Council of Governments	2.7%	2.8%	2.8%
12	Palouse RTPO	1.9%	1.7%	1.4%
13	Yakima Valley Council of Governments	1.4%	1.2%	1.0%
14	Northeast Washington RTPO	0.7%	0.8%	0.7%
	No RTPO – San Juan Islands	3.3%	3.5%	3.5%
	Total Washington State	100.0%	100.0%	100.0%

Special Emphasis Regions Forecasts

The distribution of forecast GA based aircraft by Special Emphasis Region is presented in Figure 110 below:

Figure 110: Based Aircraft By Special Emphasis Region, 2005–2030

2005 Rank	Special Emphasis Region	Current 2005	Forecast Based Aircraft 2010	2015	2020	2025	2030
1	Puget Sound	3,798	4,097	4,457	4,759	5,083	5,434
2	Spokane	579	626	675	705	735	768
3	Southwest Washington	400	447	490	529	571	616
4	Tri-Cities	284	307	331	352	375	397
	Other Washington	3,054	3,378	3,759	4,013	4,268	4,540
	Total Washington State	**8,115**	**8,855**	**9,712**	**10,358**	**11,032**	**11,755**

The distribution of forecast GA operations by Special Emphasis Region is presented in Figure 111 on the following page:

Figure 111: GA Operations By Special Emphasis Region, *2005–2030*

2005 Rank	Special Emphasis Region	Current 2005	Forecast GA Operations 2010	2015	2020	2025	2030
1	Puget Sound	1,358,117	1,491,159	1,640,534	1,770,994	1,912,874	2,068,251
2	Spokane	137,533	148,981	160,784	168,147	175,260	183,157
3	Southwest Washington	127,025	135,617	149,191	160,993	174,146	188,744
4	Tri-Cities	117,540	126,658	136,061	144,010	152,541	160,876
	Other Washington	1,228,569	1,376,971	1,516,584	1,613,970	1,710,631	1,813,466
	Total Washington	**2,968,784**	**3,279,386**	**3,603,154**	**3,858,114**	**4,125,453**	**4,414,494**

Key Findings

Based Aircraft Findings

Fastest based aircraft growth projected in Thurston and Southwest Washington RTC

The regions projected to exhibit the fastest based aircraft growth in Washington State are Thurston and Southwest Washington RTC. Based aircraft in Thurston are forecast to grow from approximately 250 in 2005 to over 400 in 2030, representing a 2.10 percent average annual growth. Based aircraft in Southwest Washington RTC are forecast to grow from approximately 380 in 2005 to over 600 in 2030, representing a 1.95 percent average annual growth. Other regions with fast growing based

aircraft include Quad County (with a 1.88 percent average annual growth), Peninsula (1.85 percent annual growth), and Northeast Washington (1.81% annual growth).

Slowest based aircraft growth projected in Palouse and Yakima RTPOs

The planning regions exhibiting the slowest rates of growth in GA based aircraft are Palouse and Yakima. Between 2005 and 2030, based aircraft in Palouse are projected to grow from 110 to a mere 130, representing an average annual growth of 0.69 percent. In Yakima, based aircraft are projected to grow from 150 to 170 between 2005 and 2030, representing an average annual growth of 0.70 percent. Other regions with slow rates of growth include Southwest Washington RTPO (1.09% annual growth) and Spokane (1.14% annual growth).

Based aircraft continue to be highly concentrated in Puget Sound

General aviation activity will continue to be highly concentrated within the Puget Sound region. In 2005, Puget Sound accounted for 46.8 percent of Washington's total GA based aircraft. This share will decline only slightly over the 25-year forecast period, to 46.2 percent in 2030. The Spokane region represents the second largest concentration of based GA aircraft within Washington, accounting for 7.1 percent of 2005 statewide based aircraft, and dropping to a 6.5 percent share in 2030. Benton-Franklin-Walla Walla, Quad-County, and Southwest Washington RTC are the next largest regions in terms of based aircraft. Each of these regions is forecast to account for between 5 and 6 percent of total Washington based aircraft in 2030.

Yakima Valley, Palouse, and Northeast Washington are the smallest regions in terms of based aircraft. These regions represent between 0.8 percent (Northeast Washington) and 1.5 percent (Yakima) of forecast statewide GA based aircraft in 2030.

GA Operations Findings

Fastest GA operations growth projected in Thurston, Whatcom, and Southwest Washington RTC

The regions projected to exhibit the fastest growth in GA operations in Washington State include Thurston, Whatcom, and Southwest Washington RTC. GA operations in Thurston are forecast to grow at an average annual rate of 2.17 percent, growing from approximately 120,000 operations in 2005 to 209,000 operations in 2030. GA operations in Whatcom are forecast to grow at an average annual rate of 1.88 percent, growing from 80,000 in 2005 to 128,000 in 2030. For Southwest Washington RTC, a 1.75% average annual growth is projected, with GA operations growing from 129,000 in 2005 to 202,000 in 2030.

Regions with below average growth in forecast GA operations include Palouse (with a 0.63% annual growth between 2005 and 2030), Yakima Valley (0.70% annual growth), and Spokane (1.15% annual growth).

GA operations continue to be highly concentrated in Puget Sound

The single largest concentration of GA operations within Washington is again projected in the Puget Sound Region. GA operations in Puget Sound totaled 1.4 million in 2005, accounting for 47.7 percent of statewide GA operations. The projected annual growth rate in Puget Sound is 1.70 percent between 2005 and 2030, slightly higher than the average statewide growth of 1.60 percent. By 2030, GA operations in Puget Sound are forecast to increase to 2.1 million, accounting for 48.7 percent of statewide GA operations. After Puget Sound, the next largest concentration of GA operations in Washington State is projected in Quad-County. An average annual growth of 1.44 percent is projected in Quad-County, with GA operations growing from 250,000 in 2005 to 360,000 in 2030. Quad-County's share of statewide GA operations is forecast to decrease from 8.5 percent in 2005 to a still significant 7.8 percent share in 2030.

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